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THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

THE BASIS OF HUMAN ASSOCIATION

A SOCIETY is not formed whenever a number of human individuals under the promptings of the same impulse engage together in the same pursuit. The pangs of hunger might cause several men to go in company to the same place and there simultaneously to search for food. They might furthermore be associating, but the fact that they were impelled by the same instinct to engage in the same activity on the same spot would not prove that they were doing so.

Nor does the division of labor with exchange of products constitute genuine association. It would perhaps be impossible to imagine how an industrial system like this could exist without true association, if we were not acquainted with such remarkable coordinations of activity through pure instinct as the ant colony exemplifies.

The reciprocal activities originating in the sex and gregarious instincts do not of themselves constitute a true society. To be sure, these acts have other agents as their objective; their continuous give and take assembles individuals in families or herds. But the other individuals whose appearance, position and movement call forth these activities are objects as external in their way as trees and rocks and rivers.

The semblance of social and political authority may even be exercised and obeyed without really associating the individuals involved. The adult males, or one of them, by virtue of sexual or parental relations or through the operation of the instincts of leadership and subjection, may exercise a control through their undisputed initiative and power to punish which gives a group the aspect of a governed society. But sheep follow a leader, and the functions of government and control in the seal rookery are energetically if boisterously exercised by the adult males.

The basis of community is *communication*. But this statement must appear inexcusably trite unless a definite meaning can be given to communication capable of illuminating actual relationships. Let us suppose that two men set about to perform together a compara-

tively simple task, such as building a lodge which will give them shelter for a season's hunting. They first talk over their plans: each communicates his ideas to the other. The conditions of such communication are that each puts his ideas and preferences into forms of speech; he gives them objectivity by setting them in the wider relationships characteristic of human experience generally; this of itself imparts new meaning to them. The suggestions which each receives from his fellow convey to him not merely the meaning originally intended but that meaning interpreted in the light of his own experience and with this interpretation having for him perchance an added interest and significance which they did not possess in the mind in which they originated. This added suggestion or modified meaning he makes explicit by the aid of speech and tells it to his fellow. In the meantime his ideas previously expressed come back to him reinterpreted in the light of the other's experience and outlook. So the discussion proceeds with the result that new ideas take form which assimilate elements of value and relevancy to the present situation from the experience of each and which, because they have won the assent of both, yield a plan upon which the two can together agree. This is *discussion*.

Then they set about each in his own way to carry out the common plan. Each uses his own initiative in choosing the sequence of acts that promises most expeditiously to advance the undertaking. But each acts in the presence of the other, seeing his fellow adopt a different method of accomplishing the same result. Possibly he doubts the effectiveness of his fellow's method as compared with his own, and expresses his doubt by a question. His co-worker explains and defends his own way of working; he perhaps criticizes it, with the result that his fellow modifies his own method of operation. The result is that both change their ways of working so that while each follows a difference and original line, the activity of the two is correlated with reference to an identical end. This is cooperation.

Together they complete the work; their plan is carried out; the hunting lodge is built and ready to be used as was intended. Each feels the satisfaction of successful accomplishment, of realizing through his own activity an end which he had previously projected in thought and whose existence he had at that time willed. This satisfaction he expresses upon his face, or by laugh or exclamation. He perceives the same signs of emotion in his comrade. Since these have to his knowledge the same source as his own, they acquire a personal meaning for him and enhance his own satisfaction. The two companions are united in feeling not because they happen to be pleased or joyful at the same time but because the satisfaction of

both has source in a common personal achievement. This, the rational meaning of their common satisfaction, they seek to express in song or dance in which they join together or in some form of triumphal decoration with which they emblazon the walls of their lodge. This is concord of emotion.

As shown by this example personal communication in the concrete means discussion, cooperation and concordant emotion. Let us consider each of these activities in turn, discovering if we can what feature it is, possessed by them all, which makes them true modes of human association. In discussion the medium of transmission is language; the material communicated consists of ideas, objects, that is, of conscious intelligence. These ideal objects are constituted of qualities and relations which intelligence has selected from the medley of perception and to which it clings in the changing flux of sensory experience. Such qualities, once distinguished become the abiding characters which sense-experience with its ceaseless change and endless variety is expected to show. They are, therefore, *universals*, attributes common to the various experiences of the same individual. These universals constituting as they do the meaning of experience may be shared, for, by an inherent necessity, intelligence assumes that the qualities which it discriminates in the flux of perceptual experience will be recognized by other individuals who observe under identical conditions. (This social implication of the universality of meanings is of course explicitly present when the object is first pointed out to the individual by name). As men associate, this world of common meanings, a social sphere, supplants the many private worlds of animal sentience which owe such similarity as they possess to the fact that similar instincts guided by similar sense-organs determine the reactions of all human individuals to the same physical environment. In the world of intelligent intercourse objects are formulated in their permanent relations of antecedence and consequence; they are also interpreted in the light of their varied possibilities of further achievement and satisfaction. Uniform causation takes the place of perceived succession; an order of values takes the place of individually anticipated satisfactions. The generally valid correlation of objects brought about through verbal communication is a function of the intelligence common to all men, which preserves its identity in the midst of changing circumstance.

The second mode of association is cooperation. Its essential condition is to be found in the ability of the human individual to realize purposes common to the choice of himself and others through the instrumentality of bodily movements freely initiated and controlled. To be sure all objects that have meaning are as such capable of

realization, in the sense of verification, by all intelligent individuals who fulfil the necessary conditions. But logical value is not moral value; all intelligible objects do not have the same practical interest for all individuals. To be adopted as the common purpose of two or more individuals an object must promise some measure of positive satisfaction or practical fulfilment to all concerned. The satisfactoriness of an object is itself measured by the range or variety of agreeable activities to which it opens the way. Such evaluation of objects according to comprehensiveness of character is assumed to hold for all human individuals and affords ground for a conscious agreement in purpose among men. Objects whose value is generally agreed upon may be such as to make their appeal to instinctive cravings for food, shelter, security, *etc.*, or to strictly social interests as those in education or recreation, or religious observance. Without community of purpose there can be no cooperation since its essence is to enlist the inventive activities of individuals in the attainment of generally understood and commonly desired results. If a man purposes simply to acquire wealth that he may use for his private enjoyment, he can not expect the cooperation of his fellows in its acquisition unless he promises them an ulterior reward in the shape of wages to be used for their private satisfactions, and at best this produces but a poor imitation of genuine cooperation. But if the industry planned and initiated by one individual is organized and directed so as to meet general human needs and this is understood by his fellows he may expect them to assist in the spirit of true cooperation. Within the limits of the common purpose which is the basis of true cooperation there is room for competition in efficiency between individuals and abundant incentive is furnished for the exercise of initiative and the display of originality.

Emotional concord becomes a form of personal communication when it springs from a source that is mutually understood by the participants. Thus it is more than sympathy as this is usually defined (an instinctive reaction to the visible signs of another's pleasure or pain). Perhaps the first and fundamental instance of emotional concord as true association is furnished by friendship or love. Here mutual acquaintance and admiration give meaning to looks, words and gestures which by their interchange serve to express and augment, in cumulative fashion, the satisfaction each feels in the character and presence of the other. This form of communication, depending as it does upon visible and audible manifestations of uniquely individual although generally intelligible satisfactions, attains highest development in the appreciation of beauty. Beautiful objects whether of nature or of art make possible an emotional con-

cord more far-reaching among men than the facial expressions or gestures of individuals; they do this because their meaning searches more profoundly the depths of our common human experience.

We are now prepared to understand the basis of human association. It is personal communication carried on through discussion, cooperation and emotional concord. Discussion is made possible by the fact that the ends which men choose among are generally intelligible. An end is a permanent possibility of realization for a subject or self; such a self is essentially social, for it maintains its personal identity by opposing to the shifting play of animal sentience an order of definable objects that is assumed to be real for all other selves as well. Cooperation depends upon the fact that the satisfaction which human individuals seek from the realization of objects as ends is a function of their comprehensiveness and this, since it is based upon their intelligible character, is assumed to hold for all men equally. The possibility of an agreement in purpose among men is therefore created, an agreement which is favored by the fact that the more comprehensive ends are those which include in their scope the interests of others as well as the self. Emotional concord is made possible by the fact that the feelings which accompany, and result from, human action spring from the pursuit of commonly intelligible ends concerning whose value there is general agreement. The "kingdom of ends" is by nature a social kingdom; the single self in pursuit of an intelligently considered and deliberately chosen end involves the society of selves participating in the realization of common ends. Personal communication as a process has three essential characteristics: first, it is governed by ends that are social and imply the community of selves; second, it gives fullest opportunity for the exercise of individual initiative and inventiveness in the attainment of ends whose value is generally appreciated; and, third, it insures from the intercourse of free persons the discovery of new values in the discharge of our common social task.

Understanding then that the basis of human association is found in the community of ends which govern the conduct of human individuals, it is important to see how the various instincts natural to man afford the occasion and incentive for exchange of ideas, team-play in action, and fellow-feeling. A good single illustration of this is furnished by the social meal. The cause and occasion for this social observance is of course the appeasing of hunger. But its social significance and value lie in the encouragement which it gives to continuous conversation and a lively interchange of ideas with a glow of mutually intelligible satisfaction. When as often in primitive society the meal is the outcome and climax of the successful

hunt, these features are more strikingly exemplified, although to be sure the mental give-and-take may not be on so high a level of intelligence.

The group of instincts at the root of our industrial and economic activities, the instincts of individual self-preservation, of food, of property, *etc.*, afford occasion in their exercise for much genuinely social experience, predominantly cooperative in character. The comradeship of the hunting party and the warrior band are celebrated in song and legend. The personal qualities developed are those of bravery and loyalty. The strictly industrial pursuits, carried on at first mainly by women, encourage comradeship of a more passive but enduring sort, the fellowship of those who together discharge monotonous tasks sustained by the thought of future benefits to accrue from their labor. This cooperation is frequently limited to the family circle and the qualities developed are those of mutual helpfulness, perserverance and thrift. The division of labor and specialization of industry call out a new and more intensive form of cooperation, that between fellow-craftsmen in the common workshop, presupposing a certain degree of technical skill and of special knowledge with all, and giving opportunity for the exercise of originality under the inspiration of others' example, and the guidance of an established and authoritative technique.

The instincts in which political organization originated, the gregarious instinct and that of race-survival, the instinct of leadership and that of subjection, have in their special way encouraged genuine association. In this case the community has been principally one of ideas; the state rests primarily upon mutual understanding. Of course when the body-politic was identical with the hunting pack or with the enlarged family its social values could not be distinguished from those evoked by the reproductive or the food instincts. Certainly cooperation has always played a part in the political relationship. But the distinctively political sphere has always been that of counsel; foreshadowed by the deliberations of chiefs and elders in the primitive tribe, for long obscured by the overdevelopment of authority, discussion has been generally acknowledged as the basis of democratic government.

Through the action of the sexual and parental instincts in establishing and maintaining the family another field is created for personal association. Here the community is to a greater extent one of feeling; it is the mutually recognized satisfaction which each of the two participants feel in the other's appearance and characteristics that distinguishes conjugal love from mere sex attraction. This mutual satisfaction receives objective embodiment in the existence

and growth of the child which as the product of their union forms an enduring tie between the father and mother. The continuous and close association of the family circle gives opportunity for the exchange of ideas while the reciprocal physical differences between man and woman, parents and child, encourages mutual helpfulness. The human individual first achieves common understanding as a child in company with his parents and brothers and sisters. As he grows older he enters into real cooperation with the members of his family, a cooperation that may become very thorough-going and very helpful.

It is noteworthy that the activities through which the principal natural instincts (with the help of intelligence) gain satisfaction may refuse that subordination which is the condition of civilization and may succeed in degrading social relationships into mere means to their own gratification. Thus in industrial activities persons, as well as inanimate things and natural forces, may be employed as instrumentalities for the securing of individual comfort and pleasure. The exigencies of political organization may be seized by individuals and utilized as opportunities for increasing their own power and prestige. The attractions of sex may prompt individuals to turn other persons into sources of sensual enjoyment. Society is in constant danger of relapsing into animalism through a reversal of the true order of primacy between the natural and the social.

To one who considers the social values that may thus be given to purely instinctive activities the question inevitably occurs, may we not make personal communication our exclusive aim instead of waiting to avail ourselves of the opportunities offered by the routine of natural existence. This we do in fact attempt when we seek to realize the "ideals" of truth and goodness and beauty. These ideals all propose an association wider than that limited by the circumstances of personal presence and acquaintance; each implies in its way the establishment of the "perfect society," the community of free persons to membership in which every human being may aspire. But since the association here contemplated is usually carried on (as when the medium is literature or art) with individuals physically and temporally remote, we may call it indirect communication, inasmuch as the relation established while essentially a personal one, does not involve personal intercourse in the usual understanding of the phrase.

To seek and to discover truth is to increase our common understanding with humanity and to enlarge our experience so as to admit the facts experienced by all other men (ideally of course to include all the facts open to possible human experience). This is a familiar

form of statement; its very familiarity prevents an appreciation of the significance and wonder of the fact it expresses. We lament the limitations of the human lot, the shortness of man's natural life and the defects of his native endowment. But do we appreciate the marvellous power that our intelligence gives us as individuals of recreating the universe and of recapitulating the history of this planet and its successive forms of life, within the limits of our own consciousness? Through the instrumentality of oral tradition and of scientific and historical writings we share the experiences of other men in many different places both near and remote, and of all times, from our own to the far distant past. These experiences have been correlated in accordance with laws that express the conditions of general intelligibility; they have been purged of all exclusive subjectivity and converted into objective facts. Through a realizing study which reinterprets them in the light of his own experience, the individual enters into communion with the spirit of humanity and shares in the vicissitudes of its lengthy and checkered career. The full possibilities of intellectual communication are realized when the individual by thought and investigation renders certain of his experiences that are unique and significant into terms that are generally intelligible and thus makes them accessible to his fellows of his own and future generations.

The industrial methods and mechanical inventions, the political, economic and social institutions to which each human generation falls heir represent the outcome of past efforts of mankind to subject the physical and vital forces of its environment to intelligent control. The individual who learns to employ these agencies and accompanies his practise with an intelligent insight into the arms and conditions of their use, enters into cooperation with the successive generations of his fellows who have employed, improved, and perfected them. Actually he is admitted into the larger human comradeship, becoming a fellow-worker with humanity in the discharge of its world-task. He participates in the arduous efforts and final successes of those inventors and reformers who have striven and suffered in the endeavor to subject natural forces to the purposes and ends of intelligent personality. This cooperation is rendered complete if the individual by applying his own inventive skill to the solution of economic and political problems is able to bring about some improvement in existing methods of operation in any one of the fields of human action.

Æsthetic appreciation is akin to the satisfaction which crowns successful endeavor, since it springs from a complete if temporary identification of the will of the subject with the beautiful. But the

social value of art lies in its power of communicating to the individual the experiences of other men far removed from him in space and time, not the facts their intelligence has verified nor the practical expedients they have found useful, but those personal impressions of fulfilment or frustration which register themselves in emotion. Such impressions are communicable because universally intelligible; they are personal interpretations. The media are of course form and color, tone and rhythm, but their æsthetic value depends upon the deeper human meaning they convey.

While acquisition of knowledge, participation in organized economic and political activities, and appreciation of beauty in nature and in art, do introduce us into wider human relationships, the association thus established falls short in important respects, when compared with direct personal communication. It can not be denied that one may enter into genuine communication with an author through study of his writings, with an artist through appreciation of his works, with a political reformer through support of the measures he inaugurated. But such association is after all indirect and suffers marked disadvantages therefrom; the direct give-and-take of personal intercourse with its stimulating and fructifying power is entirely absent—the passing inspiration struggling to express itself, the flash of immediate understanding and response, the momentary fusion of two minds in the origination of a new and fruitful idea. A higher social synthesis is therefore indicated, in which persons possessed of thorough scientific and historical knowledge, trained in the use of established industrial methods and socio-political institutions and capable of taking disinterested pleasure in objects which reflect the significance of common human experience, profit by the vitalizing influence and creative stimulus of direct personal contact. In such case the individuals associated are able to interpret and illuminate the experiences which they exchange by relating them to the larger life and progressive achievement of humanity.

Clearly such association as that just described is the ideal of civilized democracy. But just as clearly it is impossible of realization in the modern nation-state. The foundation of social union, no matter how many individuals are involved, is of course personal communication. The emphasis placed by recent writers upon this point is indeed well-timed. Moreover, by means of education, vocational training, *etc.*, this association should be made as intelligent, effective and satisfying as it can possibly be. But it is at best of narrow scope where a hundred million people are concerned. Personal contact is limited for the most part to those who reside in the same locality; it should of course be well-developed among those entrusted

with administering identical or closely related branches of government; it is highly desirable although not always practicable between the residents of any district and their chosen representatives. Beyond these limits communication must be indirect—through newspapers and periodicals, industrial processes, social conventions and political machinery. Such communication can create social unity only if its processes relate themselves to a common historic background which gives authority and a measure of justification to the existing economic and political systems and at the same time suggests an ideal to guide in their reconstruction. The importance of indirect communication as a stabilizing factor in modern society deserves more recognition; it is our chief protection against excesses of local enthusiasm, against the extravagancies of closely communicating groups who are swept off their feet by new ideas or programmes engendered in the course of their own discussions.

HENRY W. WRIGHT.

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THE LOCUS OF TELEOLOGY IN A MECHANISTIC UNIVERSE

IT is a cause of very great regret to me that I can not meet Professor Holt on his own ground.[1] The question of the correct use of concepts which he has raised is no doubt important in itself and most interesting to the readers of this JOURNAL. But it is not for me to undertake a discussion for which I am so little skilled, since, if I am not wrong, Holt's criticism of my work can be met without passing beyond the field of science. The truth seems to be that Holt has certain very definite faults to find with the teleological conclusion which I have reached, and that he has associated these as illustrations with a larger logical criticism of the structure of knowledge. He comes at length to a result which I can only think a counsel of perfection far beyond the present powers of men of science, and also, if I have read them rightly, of most philosophers. Yet this is no affair of mine.

The two books[2] which seem to Professor Holt so full of bad reasoning describe what I believe to be a scientific fact. This description has involved not only a large amount of scientific material but also, perhaps needlessly, a small amount of philosophical argument. The philosophical argument is, however, almost though not quite entirely

[1] *Cf.* this JOURNAL, Vol. XVII., pp. 365–381.

[2] *The Fitness of the Environment*, New York, 1913; *The Order of Nature*, Cambridge, Mass., 1917.

of secondary importance. Both the scientific and the philosophical portions of the books are set forth in words—not, I will maintain, in concepts—of a certain vagueness. Holt believes that this vagueness involves real fallacies which have seriously misled me. I can but admit, with his paper before me, that it has seriously misled him. For this the fault is perhaps partly mine, but, as I hope to show, certainly partly his. Such errors are made worse, according to Holt, by one cardinal fallacy with which we may begin our examination of the question. Briefly, my critic believes that the teleological conclusion of my books is the result of a preliminary selection of three elements by me.

I

When the properties of the chemical elements are carefully studied, it is easy to see that the elements differ widely and in such a way that their exact description as a system is very difficult. Nevertheless valid approximate descriptions are not hard to find. One such description is well known as the periodic classification. Another approximate description, which puts the emphasis upon compounds rather than simple substances, is given by the statement that the properties of hydrogen, carbon and oxygen are unique. Evidently such a statement is meaningless unless the use of the word unique is defined, for of course all elements are unique. This, together with other logical considerations of the concept unique, is one of the specifications of Holt's criticism. The fact is, however, that the use of the word unique here in question is fully defined by illustrations of every sense in which it is employed, and that it is never in my writings used to imply anything but its clearly stated content. For example, the heat of formation of water is the highest heat of formation of any compound from the elements, the solubility of carbon dioxide is such that it distributes itself equally between a liquid water phase and a gas phase, the heat of vaporization of water is the greatest known heat of vaporization, the number and variety of compounds of carbon, hydrogen and oxygen is the greatest among all known substances, oxygen is chemically the most active element, solutions containing carbonic acid and bicarbonates are (other things being equal) the weakest in acidity or alkalinity of any known solutions. In general the properties of these three elements and of their compounds very often fall at singular points (maxima, minima, points of inflection, *etc.*) on the curves representing the properties of all known substances. Thus it is a significant and useful approximation to a description of all the elements to say that the properties of these three are unique, and this statement ought not to lead to any misunderstanding.

Holt, however, declares that I have *selected* these three elements for study and that it is because I have selected them that I find them teleological. For the moment it will suffice to deny this criticism and to insist that my statement is a valid approximation taking account of all elements. Of course I shall raise no objection to the use of any other word rather than unique as a designation of the various singularities whose methodical enumeration is the definition of the sense of the word in my writings.

Thus the first point that I have to make is that the system of all the elements may be correctly characterized by the statement that the properties of hydrogen, carbon and oxygen are unique, when it is understood that the word unique is used to designate such peculiarities as are above mentioned and more fully described in *The Fitness of the Environment* and in *The Order of Nature.*

In studying this question an effort was made to consider all known properties of matter and, though complete success is manifestly impossible, I believe that the analysis has been adequate. Unfortunately this is a question for the specialist, who must be referred to the full discussion.

Professor Holt's argument that teleology appears in my writings because at the outset three elements were selected for consideration seems therefore to be due solely to a misinterpretation of the scientific evidence. In order to justify it he will have to show that this is erroneous or inadequate.

A second point which must now be taken into consideration, but which Holt seems to find unobjectionable, is that Willard Gibbs's characterization of physico-chemical systems is a sufficiently complete and exact description of the conditions of all physico-chemical events, regardless of the peculiarities of such events and especially of the chemical elements which are concerned in them. In other words the variables of Gibbs's mathematical analysis—phases, components, temperature, pressure, concentrations, *etc.*—are the necessary and sufficient variables for the exact characterization of any physico-chemical system, absolutely without regard to the specific properties of whatever substances may make up the system. Of course the particular values of the variables in any case will depend upon the specific properties.

A third and final point remains to be considered. The distribution of properties of the elements, which is approximately summed up in the statement that the properties of hydrogen, carbon and oxygen are unique, constitutes an unmistakable pattern. When this pattern is examined in the light of Gibbs's conclusions it is apparent that almost any sensible change in the pattern affecting almost any

one of the properties of the three elements hydrogen, carbon and oxygen would involve a great restriction upon the possibility of physico-chemical events, because systems must then be less numerous, less varied, or less stable. This is due, first, to the fact that the unique properties of the three elements are often uniquely favorable. Thus the great number of compounds favors number and variety of systems and the chemical activity of oxygen favors activity. Secondly, it is also due to the fact that the properties are important not merely individually, but also jointly in groups. Thus the solubility and acidity of carbon dioxide stabilize chemical conditions in water phases, and the various thermal properties of water coöperate to stabilize physical conditions generally.

Holt, overlooking such instances of coöperation of several factors, in spite of their frequency in my writings, makes much of the fact that when a phenomenon depends on such coöperation of several factors it is by no means true that a singular or unique value in a given factor is necessarily most favorable in the result. Yet he has but to look into my books in order to find examples of this, such as both the physical and the chemical relations between water and carbon dioxide or the chemical relations between carbon, hydrogen and oxygen.

But, indeed, my whole description of the relation of the properties of the three elements to the characteristics of systems is an illustration of the coöperation of factors in a manner so intricate and so varied, involving not merely individual properties that are maxima or minima, but also combinations of properties not themselves maxima or minima, yet nevertheless so related that maxima and minima result, and then combinations of these combinations, that it is a cause of amazement to me that Holt should ever have ventured such a criticism at all. His conclusions seem to me to depend upon a further misconception of the scientific part of my writings.

At all events, every consideration to which Holt refers has been in my mind while discussing the relevant questions, and finds expression at many points in the two books. I am unable to justify this statement except by the reference, for nothing less than the whole scientific analysis of the relation of the properties of the elements to the conditions of physico-chemical activity, stability and diversity is in question. Perhaps, however, an answer to one of Holt's specific criticisms may further illustrate the situation. My critic points out that while I have emphasized the high surface tension of water, that of mercury, as I did not fail to specify, is much higher. This is an example, however, of the phenomena important in systems depending not upon one, but upon two properties in coöperation. Capillary phenomena, in fact, depend upon the ratio of surface tension to

density, and other types of surface phenomena upon surface tension and solubility jointly. Thus what Holt puts down as a defect in the catalogue of properties of water is in reality a simple instance of a relation which elsewhere he accuses me of quite overlooking.

It may appear to the reader that something nevertheless remains of the fact, taken by itself, that the surface tension of water is not a maximum, and it is indeed true that nothing would be easier than consciously or unconsciously to juggle this kind of an argument. In this place I can only say that I have always been aware of this danger and have done my best to point out all qualifications of the uniqueness of a property or of the relation of a property to the characteristics of physico-chemical systems. Such errors of this kind as may exist in my books have at least not been revealed by Holt's criticisms.

The important fact, and the principal scientific conclusion of the two books is that if any one of a large number of properties of carbon, hydrogen and oxygen were not what it is, but resembled that of any other element, the whole time process would be reduced to almost nothing. Without the chemical combining power of carbon for hydrogen, the chemical activity of oxygen, the solvent power of water, or a high heat of formation of water—in case a single one of these or a single one of many other properties or relations between properties were not approximately what it is—the whole evolutionary process would be greatly restricted. What is the explanation of the fact that the properties possessed by these three elements are thus related? At present this question can not be answered; but the facts which suggest it are beyond the reach of the kind of criticism that Professor Holt has written, for they do not depend upon my lack of skill in the use of concepts or of words.

II

In his famous work *Exposition du Système du Monde* Laplace calculated the probability that, as a chance occurrence, the planes of the orbits of all the members of the solar system should be as nearly coincident as they are, and that all the planets and their satellites (so far as they were then known) should rotate and revolve in the same direction and approximately in the same plane. His calculation, hardly indispensable in view of the obvious magnitude of the improbability, led him to the conclusion that there must be some explanation of coincidences so improbable as chance occurrences.

Such a conclusion is entirely acceptable to the man of science. Indeed, one of the most familiar characteristics of scientific method is to seek an explanation or cause for any group of coincidences, or for any pattern, which, regarded as a chance occurrence, is sufficiently

improbable, provided the pattern is unmistakable. Thus the pattern in the solar system discovered by Kepler, and described in his three laws, led to Newton's *Principia;* thus coincidences in the geographical distribution of species to *The Origin of Species,* and Boyle's discovery that the values of $P \times V$ for a gas are coincident to the kinetic theory of gases and of heat.

It is well known that the logical implication of the mathematical theory of probability and even of Darwin's argument concerning the flora and fauna of the Galapagos Islands has not been generally agreed upon. But in spite of the familiar contention that it is idle or meaningless to calculate or to discuss the probability of that which exists, and the equally familiar argument that, according to the postulates of the theory of probability, any sequences of events or any temporal or spatial order is as probable as any other, this habit of the scientist is universal and successful.

Therefore I must once more decline to meet an argument of Professor Holt's. It is certain that I should never succeed in stating this argument from probability so as to satisfy him. And that I am under no obligation to do so seems no less evident. For me probability is still, as Laplace once said, "*le bon sens reduit au calcul.*" Let there be no misunderstanding on one point, however: it is not to the authority of Laplace or of any one else that I appeal, but to experience.

Accordingly the statement may now be made that the relation between the properties of hydrogen, carbon and oxygen and the characteristics of physico-chemical systems is not due to chance, but that there must be a relevant explanation or cause. Just as Laplace calculated the improbability of a certain set of coincidences in the solar system, so the improbability of this set of coincidences might be calculated. But, since the magnitude of the improbability is obvious, this is unnecessary.

At present it seems safe to say that the properties of the elements and the characteristics of systems, like the properties of triangles, are changeless in time. Recent evidence from the study of radium and of electrons, while indicating slight variations in what we call atomic weights, in other respects strongly supports this view. And so far as the atomic weights are concerned what is involved seems to be merely a slight change in a single definition which itself does but strengthen the conclusion.

This is why I have spoken of the *connection* between the properties of the three elements and the characteristics of systems as teleological. If changeless in time it must be in a justifiable sense of the term an absolute property of the universe, and can not be the

result of the only process by which so-called adaptations arise—the time process. It is therefore at present inexplicable, but surely not quite indescribable. For example, it bears some slight resemblance to the internal arrangement of a watch, if I may choose a time dishonored example.

And thus we arrive at the point where Holt and I are in complete agreement. To proceed from this conclusion with the old natural theology, and speak of design and mind behind the teleology, or even to suggest, or however indirectly to imply, design, seems to me, as it does *a fortiori* to Holt, just such a voluntary and irresponsible act as he thinks that I have committed at an early point in my argument.

Here once more I should be quite willing to change the term for another not more misleading than teleology. But the word teleology has always been used in this sense, as well as in several others, and I have found no other word.

The conclusion is this, that teleological pattern has not merely originated out of chaos by adaptation, but that there has always been an underlying teleological order of nature.

III

If it were true that my writings contain some of the statements which Professor Holt attributes to them, much of his criticism would remain valid. In particular, his defense of the mechanistic theory, which must seem well founded to most men of science, would cause me great inconvenience. For here I believe him to be right. But this defense is the result of his assertion that I have declared that certain empirical data "argue a relation between past phenomena and present that is not mechanical." This statement is an error. I am aware of no such data and can not imagine such an argument. So far as known the physico-chemical universe like the mechanical watch runs mechanistically.

Probably Holt and I agree about what we both clearly understand. But the logical and epistemological concepts which he handles with so much skill are beyond my powers, and the tissue of absurdity which he so readily destroys was not woven by me, nor is it the locus of teleology.

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THE LOGICAL NECESSITY OF A CONSTANT IN THE CONCEPT OF SPACE

SINCE all things we know can only be experiences of the human mind, the investigation of subjective phenomena can in no way be either aided or restricted by a hypothesis of an external world; since at no point can an element not of experience enter into such an investigation. When such distinctions are used, they serve only to throw emphasis on certain orders of subjective phenomena (and this might be done without such a hypothesis). Hence in this examination of the subjective conditions of space appreciation, I feel justified in avoiding the question as to the external reality of space.

In the consideration of spatial experience there are two distinct fields, psychology and metaphysics. Psychology examines the manner and accompanying circumstances of individual experiences; metaphysics the nature of all such experiences and the logical necessities of spatial appreciation. To assert that the latter is spurious and that space is in the legitimate field of psychology only, would find a parallel in saying that logic is that also, and that the psychology of reasoning should and ultimately will displace formal logic. But it seems obvious that logic and the psychology of reasoning are widely different fields, though both investigate the manner of reasoning. One deals with formal necessities; the other with actual happenings. And it does not affect the logical necessities if in no single instance of successful reasoning the mind passed through the exact stages defined by logic; any more than the fact that there may be not a perfect geometric figure affects the necessity of geometry or its universal applicability in understanding actual figures. Hence, a logical and metaphysical enquiry into the nature of space is legitimate and as necessary for the understanding of subjective spatial phenomena as logic and geometry are in their respective fields.

The nature of the human mind conditions all experience; logic defines and excludes to make understandable. This limiting exclusiveness of logic may be, like the metric system of measurement, without analogy either in things *per se* or the unassociated elements of empirical data. But since things can be understood neither in their entirety nor particularity, it is the place of logic, conscious or otherwise, to exclude, bound, and for the human mind, simplify and partially associate the complex of empirical data. It is in the light of one of these fundamental axioms of thought, or necessities of thinking, that I wish to examine spatial phenomena. This is the necessity of a constant in all thought. With a meter stick that

varies chaotically from a barely visible point to an inconceivable length, distances could not be measured by us. Absolute variability is inconceivable. Some sort of constants are necessary for thought of any kind. For were absolute change perceived or conceived, in the instant of conception it would have become false, and so on indefinitely. And no amount of experience would assist in guessing the next change; since if it did, the change would have been only partial. Nor would any individual perception be a perception of absolute change, since it would be static. A memory of an instant of such perception would not be that of change.

Knowledge is through memory and association; but in a state of absolute change association would be useless. Hence, knowledge would be impossible and anything changing absolutely inconceivable.

Nor would the change, being gradual, but ultimately absolute, affect this. An absolute change must be a displacement and not a growth, since development, no matter how great, implies a constant. Duration applied to absolute change can only mean a series of minute absolute qualitative changes progressively displacing the older order till nothing but the new exists, and hence, the change becomes complete and absolute. But in this case there exists no more means of understanding the new order than if the change were instantaneously complete and absolute. The only constant is simultaneity, which is extrinsic to the quality of objects.

In spite, however, of the obviousness of this, there are followers of the doctrine of relativity who affirm just this sort of thing, saying that: there are many spaces; to talk of one space is meaningless; there in no constant in space.

Thus, asserted absolutely and carried to its ultimate application, the principle of relativity presumes actual space to change with the expansion of a solid; *i. e.*, when a solid expands under certain conditions, it remains spatially the same. But this is obviously absurd, since expansion can only be thought as an addition of space.

Nor can this be affected by the observer's not being able to perceive a small change relatively or a great change absolutely; *i. e.*, equi-proportional change. For perceiving relatively, relativity is an instrument of perception and the shortcomings of this instrument are not intrinsic to the organization of the subjective data as such. That we can not directly perceive a great change if it is equi-proportional, testifies that we have no external, spatially constant, criterion; but it does not at all affect the hypothesis that the subjective conditions of spatial conception necessitate an idea of spatial constancy.

The principle of relativity, asserted relatively, simply states the

relativity of our criteria of magnitudes, not of space itself. For, that there is not a constant does not at all follow from the fact that there is an appearance of quantitative diversity between different systems at rest or in uniform transition. An analogy to this may be found in the variety of appearance an object presents from various points of view or distance. But that this diversity of appearance argues that the object possesses no constant, but varies absolutely with the representation, is generally not held. For under similar determinants a similar impression can be duplicated. Thus with no mention as to the relative truth of each of the different points of view, it is generally asserted that there is a constant determinant of them all.

Hence, to say that there are many spaces, is like asserting that there are as many trees as there are impressions of one tree. Nor is it necessary, as we stated before, either to say whether the constant of the tree impression is external to us, or to say whether the constant of spatial perception is only a subjective condition or is objective.

But, if these different quantitative diversities of space from different systems were taken as discrete elements, or if each possible vision and feeling of the tree were regarded as such, then indeed there would be as many spaces and as many trees as there were ways of perceiving one. But, if this were true, no coordination would exist and hence no knowledge would be possible, as skeptics have so often used this illustration of the trees to prove. For by what criteria could one assert one perception to be truer than another? What knowledge we have of the tree must be through a synthesis of diverse impressions. However, if knowledge is to be granted at all, a constant determinant of some sort must be posited in the case both of the tree and of space.

But regardless of this, one must necessarily conclude from the foregoing that space is not in a different category from the surest elements of our knowledge: for there is a relative diversity in all, except in realms of pure ideality, as mathematics; and even here with irrational numbers and non-Euclidian geometry there are diverse ways of regarding identical phenomena.

Nor can this conclusion be avoided by asserting that space is not a real thing as the tree is; for to call either space or the tree the result of a subjective or of an objective constant is equally possible. As long as the tree is perceived or conceived, so long must it be perceived or conceived spatially. In both there are constant determinants (for us); and for this argument it is of no consequence whether it be thought that in one case the nature of things *per se* is the determinant. For us, space is as real as the tree.

The nature of this spatial constant which is the logical condition of all spatial conception is very difficult to define; especially with non-Euclidean geometry, a geometric invariant is almost impossible of conception. It resolves itself into a mere concept of the unchangeableness of space; a regarding of space as a static order. This of course is very indefinite. But the unsurmountable difficulties of more explicitly conceiving such a space are no greater than those of thus conceiving the constant determinant of the tree impressions.

Granting that the perception of time and space are relative to the velocity of a system from which they are perceived, in what media is another system with different velocity? How is velocity to be conceived with neither space nor time? Without the analysis of space and time velocity is meaningless; and even though the perceptions of space vary with the velocity of the system, the media through which the system moves can not be conceived as not having a spatial, constant, and continuous character. But even if there should be strong evidence that time and space were purely human analyses of a unified reality, yet none the less objective phenomena can be understood only through them.

Thus the theory of relativity, while supposing many spaces rather than many aspects of one, and denying that it can be conceived as a unity, yet must speak of various velocities of various systems, which is absurd with a concept of a continuous, constant space. The unreality of this space is not proved by the fact that no perception is truer than another; any more than that it follows that the constant determinant of the tree perceptions is unreal because no single perception is truer than another.

Stated simply, the basis of this analogy is, that diverse perceptual data must have some legitimate ground of synthesis or knowledge is impossible, and that variation in perceptual data does not necessarily mean variation in central determinants, if there is sufficient unity of character throughout to give the object uniqueness. That this latter qualification includes space is patent, for space is uniquely spatial and can not be confused with other things or qualities.

A constant is a necessity of human understanding. It is the logical condition of any knowledge, and where the constant is not definitely perceived (as in case of the tree and space) the supposition that there is one is unavoidable. The whole relativist point of view when stated absolutely is contrary to the necessities of thought and logic.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Psychology of Nations: A Contribution to the Philosophy of History. G. E. PARTRIDGE. New York: Macmillan Co. 1919. Pp. x + 333.

The title is misleading; for the book falls into three distinct parts: (1) a discussion of various theories of the causes of war from a psychological point of view (Part I.), (2) a discussion of internationalism as an educational problem (Part II., Chs. I.–VII.), (3) a discussion of miscellaneous social problems in their bearing on education. The first part, as just stated, is not a first-hand examination of the causes of wars, but a critique of various theories of war in general. The standpoint of the critique is psychological, and the author's chief interest is not so much in discovering how a war comes about as it is in formulating certain motives which operate in war. The first and obvious answer of the psychologist to the problem of the cause of war is that it is directly instinctive, an element of human biological structure. This biological structure is supposed to be a product of the operation of the law of natural selection. But Mr. Partridge cites a long list of authors who find no relation between natural selection and war. Furthermore there is no evidence that war, even in its primitive form, is an animal trait in man. The origin of war is to be sought rather in a fusion of numerous primitive traits into complex states of consciousness or moods. Or, as the author puts it, "war belongs to history rather than to biology" (p. 8). The search for the causes of war thus takes us not to the romantic past of primitive man and his "struggle for existence," nor even to man's present instinctive nature; it takes us to certain recurrent social situations which generate the "warlike mood." For the instinctive tendencies of man, though they are the ultimate source of all human motive power, "become the warlike mood or produce war . . . only when the intelligence gives to the relations between groups definite intentions and directions, and out of the many impulses that lead to combat, a distinctive motive and mood are derived" (p. 16).

This war-mood is described by the author as essentially a mood of intoxication, an ecstatic mood; a mood in which life bubbles over. A feeling of power and a joy in its exercise become so dominant that all tendencies toward fear, pain and repression are transcended and fused into a "free expression of energy." And this fused mass glows with a light that has its source not in the various instinctive elements of the mood, but in the fact of fusion itself. It is the light of ecstasy, revealing new visions and releasing new forces. It is in

terms of these ecstatic moods that war is to be understood. Following this lead, Mr. Partridge discusses several of the so-called instincts which are prominent in war, such as "the aggressive instinct," fear, hatred, the instinct of combat and the "social instincts," attempting to show how each is susceptible to ecstatic forms and how it is these ecstatic forms which are operating in war. Fear, for instance, is known in extreme forms to produce a state of exaltation leading to great daring and achievement. The gambling mood, prominent in war, is such a state of intoxication arising often in fear and "clearing the way for free and uninhibited action." The joy of fighting and killing is also essentially ecstatic.

With this analysis the psychology of war might be complete. But Mr. Partridge is interested in making this psychological analysis contribute to a philosophy of history. These warlike moods are not to be regarded simply as recurrent moods arising out of recurrent social situations; they are but one phase of "the psychological principles that are at the bottom of all social development" (p. 141). They have a deeper meaning! There follows, accordingly, a loosely organized and superficial discussion of æsthetic, nationalistic, religious, moral, philosophical, economic, political and historical factors in war, the obvious purpose of which is to link up psychology and history, thus introducing the author's psychological philosophy of history. This philosophy is simple and not strikingly novel. It is summarized as follows: "We are always catching sight of a movement in the development of nations and of the world—of certain fundamental motives, the most basic of all, the most general, being the motive of power. . . . Although fortuitous events as causes of war must not be overlooked, war is not continually being made anew by the appearance again and again of accidental situations which are thus to be regarded as the cause of war. . . . Primitive motives and moods of war that we find in the nature of the social group itself, emerge finally in three aspects of the life of nations, and it is these aspects of the life of nations that appear to us as the causes of war. They are not separate and independent features of the social life, and it is in part only for the sake of convenience that they are sharply separated at all. They are all at bottom manifestations of the motive of power that runs through all history, and all the social and individual life. On the one side this motive appears in moods and impulses that we called the 'intoxication' moods and impulses. National honor we found to be another effect of it. The political motives of war are its concrete expression. These motives all together—all being but phases of a deep, powerful energy and purpose—are the source of the main movement in history out of which

war comes. In this movement all the motives of the social life are always present and active at the same time. The good and the bad of national life are phases of a single purpose and are not two contrasted principles or moments. The past is always contained in the present'' (pp. 153–154).

The bearing of all this on the present situation is not obvious; for it would seem on the face of it to have no bearings. But the author does make brief application of it to the present situation—an application which is negligible from the point of view of the argument of the first part, but fundamental to the second part, and even more fundamental to an understanding of the author's mind. The life of the nations is nearing the end of adolescence. (This term is not used in the book, it is merely suggested by the author as a useful analogy. The book was written in connection with a seminar by G. Stanley Hall!) That is to say, nations are subjectivistic, highly emotional, influenced by mysticism and frequently ecstatic. They indulge in day dreams of empire and kindred illusions. But the war has put an end to the dreaming of dreams and the playing of plays; the nations are face to face with serious work. ''The consciousness of nations contains, it may be, unsuspected powers, suppressed in the past by narrow nationalism, by fear, habit and convention. These powers may now, if ever, blossom forth; they have been wasted too long in patriotic feeling and idle dreamery. They must now show what they can do in a practical world that will have no more of assertions. The world stands to-day balanced between two ideals. Human spirit, the spirit of nations, is a free and plastic force; it is also a sum of motives and desires; but most fundamentally of all it is a growing, living, creative and personal spirit. It still clings to its luxuries of feeling, to its provincial life, it is still fascinated by its beautiful romance of empire. On the other hand we see the stirring of a new idea. A new world arises, less dramatic in its appeal than the old world, but a world appealing by its practical problems both to the will and to the intellect. . . . We stand to-day at a dramatic moment in history; a more dramatic moment than when the victory itself hung in the balance. Perhaps our sense of responsibility for the future is an illusion; perhaps we are driven by an inexorable logic of history, and we do not after all choose what our world shall be. But certainly the sense of human power in the world has never been greater than now nor seemed better justified; nor, if we are deceived, has the reality ever been more out of harmony with the ambitions of man'' (pp. 156–157).

The second part of the book is devoted to the problem of reorganizing education for the purpose of establishing moods more de-

sirable than the intoxication of war, and especially establishing the international mood. It consists for the most part of wearisome variations on the theme: "If internationalism is to be the order of the future, new educational efforts will be demanded, and there must be different points of view in the several phases of our educational system, for now all education is devised with reference to an autonomous state of the nation" (p. 181). The discussion is unduly repetitious and obvious. It contains some interesting suggestions for education, but philosophically and psychologically it adds little to the first part of the book, and therefore need not further concern us.

In the last third of the book Mr. Partridge gives us his views on a number of subjects—some of them appear to be almost hobbies. For example, he believes that schools should be transferred bodily from the city to the open country on the ground that it would afford a more desirable moral and esthetic environment in which "the fundamental moods of childhood" could be more readily directed and controlled (p. 191). The schools should be thoroughly religious in order that "the philosophical attitude" may be developed. Industrial education must be less specialized, more esthetic and creative. "Our schools of to-morrow . . . must still be inspired by the scientific spirit, but what we need is science humanized, and science in the service of moral principles" (p. 313). "Education of the sexes through situations in which the specific abilities of each sex are brought into action, doing for the wider social life what the natural and instinctive differentiation of activities has accomplished in its way for the domestic life seems to be the main principle now to be employed in the education of the sexes" (p. 300). These fragments should suffice to give an idea of what is scattered about in the latter part of the book.

We return to review the psychological and philosophical argument of the author. One's total reaction to the book is emotional. It is impressive not as an argument or a scientific inquiry, but as a sermon. It is edifying rather than clarifying. One is swept along much as though one were reading a book of psalms; each sentence is an exhortation, and as one proceeds the exhortatory force accumulates until one ends in an "intoxication mood" of edification. One can not emerge from the book without a feeling of enthusiasm for something which is critically important, but that something is intellectually elusive. There is some evidence throughout the book and especially in the preface that the book was designed for this purpose, and there is even more evidence that it originated in such a mood. However that may be, the effect produced on at least one reader is this feeling of confused exaltation—one might call it the Richard

Strauss effect. The effect is produced by an attempted blending of discords. A few illustrations may make clear what I mean.

The book is avowedly a plea for the development of "the international mood." Hence the reader is naturally curious to know how such a state of mind may be achieved. The author's answer is: by studying history for the purpose of discovering "what each nation stands for, its ethos, its personality" (p. 174), and by the "reeducation of national desires." That has a pleasant feeling tone, as the psychologists would say, but what does it mean? If nations are to be judged historically, if their historical development is "an unfoldment of purpose in the world" (p. 194), what does a reeducation of this purpose mean? Or conversely, if a new international consciousness is needed, how can a Hegelian philosophy of history, or any philosophy of history for that matter, serve as its justification? One is reminded of H. G. Wells's phrase, "salvation by history." Only an evolutionistic historian could conceive of so poor a way of attaining salvation. It would be out of place to enter upon a criticism of the author's assumption that nations are historic personalities, characters in a cosmic drama, and his even more fundamental assumption that "life in its fundamental movements and motives is both simple and continuous; it is fragmentary and complex only on its surface" (p. 321). They are not new ideas and have been of late so widely criticized that it seems highly naïve in a contemporary author to take them for granted. A single comment, however, might not be out of place. In his discussion of Americanism, the author defines "that which American life is in truth based upon" as "physical power and motor freedom, the sense of liberty, the colonial spirit of comradeship and devotion to a common cause, the ideal of an abundant and enthusiastic life" (p. 221). On the author's hypothesis this analysis seems "fragmentary and complex" enough to be consigned to "the surface." But to the uninitiated it would suggest that it is dangerous to assume that American life really has a unified personality or an ideal basis.

A corollary of the confusion indicated above is the following: "War obtains a natural explanation on sociological and psychological principles, not as a disease, but as a natural consequence and condition of the formation of nations" (p. 203). As if a "social disease" were not also a "natural consequence and condition of the formation of nations." Would that we could destroy diseases by explaining them! Moreover, what light can a "broad interpretation of the world and of history and the nature of national consciousness by some genetic view of national life" (p. 203) possibly throw on the problem of "the good and evil of war"? History teaches us that "genetic" theories are morally irresponsible!

One other illustration of the author's use of words for the sake of emotional effect at the expense of clarity must suffice. In a passage quoted above the author speaks of the "powerful energy and purpose" underlying all history. One immediately gets an ecstatic twitch upon reading such a phrase. But surely it is confusing to identify energy and purpose. The fact that evolutionist writers are in the habit of doing it makes the fallacy all the more pernicious. In view of contemporary discussions it appears to be high time to make a clear distinction between the two, instead of continually trying to "resolve" one into the other. It is emotionally very effective to start with a conception of a universe of energy and then very gradually, almost imperceptibly, to change the scene until presently the vision of a cosmic purpose bursts into view. But that is after all an intellectual "movie stunt," not to be mistaken for reasoning. In spite of our horror for "fixed ideas," reason continually flounders in an ideational flux.

It is clear from the above that the greatest source of confusion in the book appears to me to lie in the constant application of the evolutionary fallacy. (Logicians should give it a technical name; I suggest, *ad historiam.*) A second difficulty, and this one a practical difficulty, arises from the function of "a psychology of war." It appears that an analysis of the "war-mood," being nothing more than an exposition of how war conditions affect the human mind, can not be part and parcel of an analysis of the causes of war. I believe the author recognizes this. If this is so, then the problem of abolishing war and establishing internationalism is a problem of controlling the conditions by which a war-mood is generated, and not a problem of the education of moods. It is fundamentally a problem for politics and government, rather than for "the education of motives." I feel that there is a confusion in the use of the terms motives and causes for war. The author begins with the attempt to discover motives *for* war, but soon, and apparently unconsciously, drifts into a discussion of motives (or moods) *in* war. The problem of the motives *for* war is not strictly speaking a psychological problem, as is the latter.

The book is unusually fertile in suggestive "texts" for discourses on a great variety of subjects. It is to be regretted, I think, that Mr. Partridge did not content himself with a few of these and develop them carefully, instead of trying to discuss human life in general. I mention only a few of these texts. A pragmatist might preach a good sermon on: "Our culture is an experimental culture and represents an experimental civilization." A neo-realist might find it interesting to develop Mr. Partridge's idea of the externality

of international relations. And a Freudian might be interested in analyzing the "psychological principles" underlying a contemporary book on the "intoxication mood."

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JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW, January, 1920. *The Present Situation in Philosophy* (pp. 1–26): NORMAN KEMP SMITH.– Philosophical systems are reducible to three main types, idealism, naturalism and skepticism. Skepticism is at present in abeyance. The controversy is between naturalism and idealism. They agree as to the objective validity of intellectual values, but differ as to the objective validity of all other values. *The Case Against Dualism* (pp. 27–42): A. K. ROGERS.– Examines twenty-two isolated examples of arguments against dualism or representationalism gathered from widely varied sources, and concludes that they are not decisive against all available interpretations of such a theory, and that more criticism on the part of opposing philosophies is needed if their foundations are to stand. *From the Old Realism to the New* (pp. 43–58): JOSHUA G. GREGORY.– Sees in opinions concerning dreams direct parallels with the realistic and idealistic movements of thought. Where the content of dreams is external, as in animism and the new realism, the tendency of thought is realistic; where dreams are taken as subjective, thought is idealistic. *The Destiny of the Self in Professor Bosanquet's Theory* (pp. 59–79): RADOSLAV A. TASNOFF.– "An effort will be made in this paper to state concisely Professor Bosanquet's treatment of this problem (*viz.*, the mode of being of the finite individual) in relation to his general philosophical position, to note some of the more important criticisms . . ., and then to consider briefly how far it does justice to the cosmic rôle of the finite individual." *Discussion: The Nature of Knowledge* (pp. 80–82): JAMES LINDSAY.– A brief defense of the legitimacy of such a study as the theory of knowledge. *Reviews of Books:* Ernest Barker, *Greek Political Theory: Plato and his Predecessors,* PAUL SHOREY. H. J. W. Hetherington and J. H. Muirhead, *Social Purpose: A Contribution to the Philosophy of Civic Society,* J. E. CREIGHTON. Henry Rutgers Marshall, *Mind and Conduct,* HELEN E. PARKHURST. *Notices of New Books. Summaries of Articles.*

Eddington, A. S. Space, Time and Gravitation. Cambridge: University Press. 1920. Pp. 218. 15s. net.

Labordère, Marcel. Une profession de foi cartésienne. Paris: Armand Colin. 1919. Pp. 142. 3 fr.

Sorley, W. R. A History of English Philosophy. Cambridge: University Press. 1920. Pp. xvi + 380. 20s. net.

NOTES AND NEWS

A MEETING of the Aristotelian Society was held on June 7th, Professor Wildon Carr, vice-president, in the chair. Rev. A. E. Davies read a paper on "Anselm's Problem of Truth and Existence." The famous proof of the existence of God is not purely ontological, but rather the verification of a specific mode of experience termed "Faith." In Anselm's words it is "Faith seeking understanding," and by Faith is meant a mode of immediate apprehension, awareness of God. Two stages are distinguishable in the reasoning. The first seeks to prove that we must think of ultimate reality in terms of existence. Here the appeal is to logical thought. In the second stage Anselm proves that this ultimate reality is his Personal God. Here the appeal is to experience. The argument implies that truth and existence are two ultimate forms of reality;—existence the reality of things, truth the validity of thought-contents. Hence truth must be sought in terms of validity. This is the logical character of the "proof." We can "only *know* as perfectly as possible." We know existent reality only as our thinking is valid, and we can not think validly that God is non-existent. Between these two ultimate forms of reality is presupposed a fundamental agreement, such that the relations of thought validly represent the real relations of things. For Anselm such agreement has its ground in God. A second implication is that when thinking is valid it starts from existence, in the same sense that its contents are occasioned by existent reality. So that without experience we can not know. The ethical character of the basic conception of God proves it to be no mere thought-product, that is, knowledge presupposes a mode of reality dissimilar from itself.

DR. C. W. HENDEL, JR., was appointed assistant professor in philosophy at Princeton University, not associate professor as previously noted.